



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,808	11/13/2001	Pentti Nieminen	602.356USW1	7300

22865 7590 05/22/2003

ALTERA LAW GROUP, LLC  
6500 CITY WEST PARKWAY  
SUITE 100  
MINNEAPOLIS, MN 55344-7704

EXAMINER

STERRETT, JEFFREY L

ART UNIT PAPER NUMBER

2838

DATE MAILED: 05/22/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
--------------------	-------------	-----------------------	------------------

010,808

EXAMINER

ART UNIT

PAPER NUMBER

15

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 3/17/03

☒ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

- ☒ Claim(s) 15-28 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
☐ Claim(s) \_\_\_\_\_ is/are allowed.  
☒ Claim(s) 15-28 is/are rejected.  
☐ Claim(s) \_\_\_\_\_ is/are objected to.  
☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.  
☒ The drawing(s) filed on 11/13/01 & 3/17/03 is/are objected to by the Examiner.  
☐ The ~~proposed~~ drawing correction, filed on 3/17/03 is ☒ approved ☐ disapproved.  
☐ The specification is objected to by the Examiner.  
☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.  
☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_  
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- ☐ Notice of Reference Cited, PTO-892  
☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 12  
☐ Interview Summary, PTO-413  
☐ Notice of Draftsperson's Patent Drawing Review, PTO-948  
☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

Art Unit: 2838

1. The corrected or substitute drawings were received on March 17, 2003. These drawings are approved.

2. The drawings nevertheless are objected to because the connection of windings P2 and P4 in figures 1a and 5 do not agree with the apparently correct connections shown in figure ~~1b~~. It is suggested that winding P2 be connected between winding P1 and the negative terminal of capacitor C1 and that winding P4 be connected between winding P3 and the positive terminal of capacitor C1 as is clearly shown in figure 1b (i.e. swap the connections of windings P2 and P4 in regards to the capacitor C1).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. This objection will not be held in abeyance.

3. Figure 2 also should have been designated by a legend such as --Prior Art-- because only that which is old is illustrated (See MPEP § 608.02(g)). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. Claims 15-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15-27 are vague and indefinite since in line 12 of claim 15 the primary and secondary windings are recited as producing flux in the same direction as that of the filter coil but

Art Unit: 2838

claim 17 recites that the flux produced by the secondary is opposite of that of the primary windings. It is suggested that the flux recited in claim 15 be clearly and distinctly differentiated from the flux recited by claim 17 since in a telephonic discussion with applicants representative it was put forth that one recited flux was meant to be limited to the flux in one leg while the other recited flux was meant to be the flux in the entire core. ✓

Claims 15-27 are confusing since they recite that the secondary winding produces magnetic flux however conventionally only the primary winding of a transformer produces magnetic flux from an input power source while the transformer secondary winding produces power from the magnetic flux. It is suggested that instead of utilizing the term "produced by" the term --associated with-- or an equivalent term be utilized.

Claims 24 and 26 are vague and indefinite since the terms "the first <sup>end</sup> side" and "the second <sup>end</sup> side" lack proper antecedent basis.

Appropriate correction is required. It should be noted that the following prior art rejections are based on the best understanding of the recited invention considering the above mentioned vague, indefinite, confusing, improper, and incorrect claim language.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. It should be noted that the following prior art rejections are based on the best understanding of the recited invention considering the above mentioned vague, indefinite, confusing, improper, and incorrect claim language.

Art Unit: 2838

6. Claims 15, 17, and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cielo et al (US 3,694,726).

7. Claims 15, 17, 24, 26, and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bloom (US 4,864,478 or 4,961,128).

8. Claims 16 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claims 16 and 20 except for utilizing four windings on the primary side of the converter. Utilizing multiple primary transformer windings was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention. It would have been obvious to one of ordinary skill in the power supply art at the time of the invention to have modified the chopper type DC converter of Cielo et al or Bloom by utilizing four transformer primary windings instead of two transformer primary windings taught by Cielo et al or Bloom since both were old and known expedients to those of ordinary skill in the power supply art at the time of the invention.

9. Claims 18, 19, and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claims 18, 19, and 21 except for utilizing a capacitor in parallel with the input source. Utilizing an input capacitor was an old and known expedient to those of ordinary skill in the power supply art at the

Art Unit: 2838

time of the invention. It would have been obvious to one of ordinary skill in the power supply art at the time of the invention to have modified the chopper type DC converter of Cielo et al or Bloom by utilizing a capacitor in parallel with the input source since input capacitors were old and known expedients to those of ordinary skill in the power supply art at the time of the invention.

10. Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom in combination with Barrett.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claim 22 except for utilizing a half bridge converter topology. Utilizing a half bridge converter topology was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention, as taught by Barrett for example. It would have been obvious to one of ordinary skill in the power supply art at the time of the invention to have modified the chopper type DC converter of Cielo et al or Bloom by utilizing a half bridge converter topology since doing so was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention, as taught by Barrett for example.

11. Claim 23 is rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom in combination with Morris.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claim 23 except for utilizing a full bridge converter topology. Utilizing a full bridge converter topology was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention, as taught by Morris for example. It would have been obvious to one of ordinary skill in

Art Unit: 2838

the power supply art at the time of the invention to have modified the chopper type DC converter of Cielo et al or Bloom by utilizing a full bridge converter topology since doing so was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention, as taught by Morris for example.

12. Claim 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claim 25 except for utilizing a third and fourth switching elements on the secondary side. Synchronous rectifiers were old and known expedients to those of ordinary skill in the power supply art at the time of the invention. It would have been obvious to one of ordinary skill in the power supply art at the time of the invention to have modified the chopper type DC converter of Cielo et al or Bloom by utilizing a synchronous rectifier as the rectifier of Cielo et al or Bloom since doing so was an old and known expedient to those of ordinary skill in the art at the time of the invention.

13. Claim 27 is rejected under 35 U.S.C. § 103(a) as being unpatentable over either Cielo et al or Bloom.

Cielo et al and Bloom both teach a chopper type DC converter as recited by claim 27 except for utilizing two outputs on the secondary side. Utilizing multiple outputs on the secondary side of a transformer was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention. It would have been obvious to one of ordinary skill in the power supply art at the time of the invention to have modified the chopper type DC converter of

Art Unit: 2838

Cielo et al or Bloom by utilizing two outputs on the secondary side since doing so was an old and known expedient to those of ordinary skill in the power supply art at the time of the invention.

~~14.~~ Applicant's arguments filed March 17, 2003 have been fully considered but they are not persuasive.

In response to the remarks concerning the prior art references cited by the examiner, as stated above the claim language remains vague, indefinite, confusing, improper, and incorrect and as such the claim language cannot at this time be judged to read over the teachings of those cited prior art references. As noted by applicant in the paragraph bridging pages 12 and 13 of the March 17, 2003 amendment the "magnetic fluxes provided by the various windings and their directions are what constitute a core idea of the present invention" and as such it is imperative that the recitations concerning those fluxes be clear, distinct, correct, and explicit.

In response to the remarks apparently concerning the respective circuitry topologies of applicants power supply and the prior art power supplies, insufficient recitation of any circuitry is made in order to fairly give credence to whether applicants inventive circuitry distinguishes over the prior art power supplies. Claim 15 for example recites a "chopper-type direct-current converter" in name only without ever setting forth any limitations or recitations of circuitry that such a converter comprises but instead only recites the details of a magnetic structure that is implicitly a transformer. Likewise claim 28 merely recites a "chopper-type regulator" in name only without ever setting forth any limitations or recitations of circuitry that such a regulator comprises but instead only recites the details of a magnetic structure that is implicitly an inductor. Thus it is recommended that details of a chopper-type direct-current converter or chopper-type direct-



Art Unit: 2838

current regulator (transformer/inductor, switches, diodes, capacitors, etc and how they interact or define a chopper-type direct-current converter or chopper-type direct-current regulator) be added to the claims if applicant wishes to support the argument that the inventive circuit topology is different from that of the circuit topologies of the cited prior art references.

~~15.~~ During a telephone conversation with Kevin Turner on May 14, 2003 the above issues were briefly discussed without any immediate resolution reached. During a follow up telephone conversation on May 20, 2003 a request was made that an office action be send out since no quick resolution of the above issues was possible at this time.

~~16.~~ **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will this statutory period expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2838

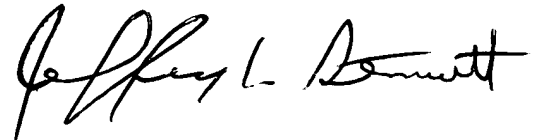
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sterrett whose telephone number is (703) 308-1632. The examiner can normally be reached on Monday through Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry, can be reached on (703) 308-1680. The fax phone number for this Art Unit is (703) 305-7723 and the fax phone number for this Group is (703) 305-3431 or (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

jls

May 20, 2003



Jeffrey L. Sterrett

Primary Examiner

Art Unit 2838